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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/737,752	12/18/2000	Kazuya Yoneyama	KAW-239-USAP	1362

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03/15/2004

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EXAMINER

YENKE, BRIAN P

ART UNIT

PAPER NUMBER

2614

DATE MAILED: 03/15/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/737,752

Applicant(s)

YONEYAMA, KAZUYA

Examiner

BRIAN P. YENKE

Art Unit

2614

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 December 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 9 and 10 is/are allowed.
- 6) ☒ Claim(s) 1-3, 5, 7 and 8 is/are rejected.
- 7) ☒ Claim(s) 4 and 6 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

1. Applicant's arguments with respect to claim 1-3, 5, 7 and 8 have been considered but are moot in view of the new ground(s) of rejection.
2. The amendment to the title of the application is approved by the examiner.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-3, 5, 7, and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over applicant's admitted prior art (AAPA) in view of Aoki, US 4,971,436.

In considering claims 1 and 8,

AAPA (Fig 7) discloses a projection system in which the light from source 101 is reflected by a plane reflective mirror 133 to projection unit 104. Projection unit 104 is identical to the applicant's projection unit as described in the specification, which includes at least one dichroic mirror and a light valve element.

Regarding the use of a curve mirror to reflect the light from a light source. Although, the use of a curved mirror is notoriously well known in the art, the examiner

nonetheless incorporates Aoki et al., US 4,971,436 which discloses the use of a curved mirror 21 (Fig 2) which is used to guide the light transmitted by light source 3.

Thus it is known that a plane reflective mirror can reflect light at 90 degrees, given the light source/beam is aligned to the mirror as shown by AAPA (Fig 7). It is also known that a light source can be positioned in a different position/location, giving the designer the ability to place the light source at an arbitrarily angled/positioned in relation to the mirror.

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify AAPA which discloses a projection system where the light source is aligned with reflective mirror by using a curved mirror as done by Aoki, in order to provide the user/designer the ability to position the light source in an arbitrary position, based upon the size/type of the projection system being designed.

In considering claim 2,

The claimed wherein said curved mirror forms a part of a curved surface having rotational symmetry about a predetermined axis is met by Aoki where the curved mirror 21 are symmetrical with respect to the axis of projection.

In considering claim 3,

The claimed wherein said curved mirror is a parabolic mirror is met where the mirror 21 may be parabolic (col 3, line 37-42).

In considering claim 5 and 7,

Neither the combination of AAPA nor Aoki disclose the use of a hyperbolic or spherical mirror.

As stated above, Aoki does disclose the use of a parabolic mirror.

It is also notoriously well known when using a curved mirror to reflect light, a variety of curved mirrors are available to the designer, including the claimed hyperbolic and spherical mirror.

Thus the examiner takes "OFFICIAL NOTICE" in regards to a projection system which utilizes a hyperbolic or spherical mirror.

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify AAPA and AOKI which discloses the use of a projection system which includes a curved mirror to reflect the light from the source, by using curved mirrors such as hyperbolic and spherical mirrors, which are readily available and conventional in projection systems.

Allowable Subject Matter

4. Claims 9 and 10 (previously objected to claims 4 and 6) allowed.

Claims 4 and 6 are again objected (previously objected to paper #3) to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure—please refer to newly cited references on attached form PTO-892.

6. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brian Yenke whose telephone number is (703) 305-9871. The examiner work schedule is Monday-Thursday, 0730-1830 hrs.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's Supervisor, John W. Miller, can be reached at (703)305-4795.

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Any response to this action should be mailed to:

Commissioner of Patents and Trademarks

Washington, D.C. 20231


or faxed to:

(703) 872-9314

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, VA, Sixth Floor (Receptionist). Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology Center 2600 Customer Service Office whose telephone number is (703)305-HELP.

B.P.Y.

24 February 2004


JOHN MILLER
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600